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AUTHOR Travis, Dennis B.; Follo, Eric
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ABSTRACT

This study explored the extent to which the development of written teaching units in university methods courses was useful in preparing teachers, noting ways in which practicing teachers designed and organized subject matter in the form of written units. Participants were preservice elementary teachers enrolled in an Oakland University methods course, preservice elementary teachers who had completed student teaching, and experienced elementary teachers from nearby school districts (the Detroit metropolitan area). Researchers used both written survey questionnaires and telephone interviews. Preservice teachers reported that the experience of writing detailed unit plans in their methods course was more useful in terms of process skills acquired than in the actual product (unit) they developed. Experienced teachers indicated that time may be a limiting factor in the development of detailed written plans. The experienced teachers utilized a combination of sources and strategies to select and organize content to be taught. While most included the curriculum prescribed by their district or building, a significant number of the elementary teachers reported that they organized content in the form of integrated themes. (Contains 12 references and 5 tables.) (SM)

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# Effective Unit Planning:

# From Theory to Reality

by

Dennis B. Travis and Eric Follo

**Dennis B. Travis, Ed.D** is a K-12 Curriculum Consultant and Adjunct Professor in the School of Education and Human Services, Oakland University, Rochester, MI
Telephone (Home): (248) 332-3035
E-mail: travis@oakland.edu

**Eric Follo, Ed.D** is a Professor in the School of Education and Human Services, and Chairman of the Department of Curriculum and Instruction at Oakland University, Rochester, MI 48309
Telephone (Office): (248) 370-3081
E-mail: follo@oakland.edu

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# Effective Unit Planning: From Theory To Reality


## Abstract

This study explored 1) the extent to which the development of written teaching units in university methods courses is useful in the preparation of teachers, and 2) ways in which practicing teachers design and organize subject matter in the form of written units. Using both written survey questionnaires and telephone interviews, respondents included:

a) pre-service elementary teachers enrolled in an Oakland University methods course;
b) pre-service elementary teachers who had completed student teaching; and
c) experienced elementary teachers from nearby school districts (Detroit metro area).

Pre-service teachers reported that the experience of writing detailed unit plans in their methods course was more useful in terms of process skills acquired than in the actual product (unit) they developed. Experienced teachers indicated that *time* may be a limiting factor in the development of detailed written plans. Experienced teachers sampled utilized a combination of sources and strategies to select and organize content to be taught. While the majority included the curriculum prescribed by their district or building, a significant number of the elementary teachers reported that they organized content in the form of integrated themes. While this study suggests that unit plan design is a useful component of teacher education programs, university course planners should continue to explore ways to better align pre-service teacher experiences with the realities faced by local practicing classroom teachers.

# Effective Unit Planning: From Theory To Reality

**Introduction**

This study involves unit planning strategies as practiced by both pre-service and experienced teachers. Specifically, one purpose is to study the extent to which the development of written teaching units in university methods courses is useful in the preparation of teachers. The other major purpose is to explore the ways in which practicing teachers design and organize subject matter content in the form of written units.

(Definitions)

There have been several educational terms coupled with the concept of unit to define instructional intent or packaging. Among these terms are: teaching unit, resource unit, problem unit, experience unit, unit of work, subject matter unit, integrated unit and instructional unit. Shane and McQuigg (1964) maintain that a unit at the secondary level is a block of subject matter. Jensen and Kiley (2000) define an instructional unit as "a collection of lessons, activities, and resources that are connected by a unifying concept or topic." (p. 320) Arends (1997) defines an instructional unit as "essentially a chunk of content and associated skills that fit together in a logical way." (p. 31) Marzanno, Pickering and Pollock (2001) divide unit planning into three phases; (1) *beginning phase* when strategies for learning goals are set, (2) *during phase* when progress is monitored, new knowledge is introduced, practicing, reviewing and applying of knowledge takes place, and (3) *end phase* when students are helped to determine how well they achieved the goals. Unit planning for the purposes of the present article is the organization of content and learning activities into a coherent sequence that facilitates student understanding of a meaningful segment of the curriculum.

(Literature on Unit Planning)

Tyler (1950) and Taba (1964) promoted four essential steps to achieve effective planning (1) identify objectives, (2) identify content, (3) organize learning activities, (4) specify evaluation. Yinger (1980) maintained that "teachers and classrooms rarely function effectively without some kind of planning." (p. 107)

Research on the effectiveness of teaching that was planned in units was examined in the Handbook of Research on Teaching (Gage, 1965). The studies that were reported involved the teaching of mathematics and were inclusive about their effectiveness in terms of student learning. The Handy 5 Model, piloted and evaluated in Kansas, provided opportunities for library media specialists and teachers to collaborate on the development of instructional units. Grover, et al., (1999) found that the model facilitated student learning in formal grade levels and for units of any length.

Shane and McQuigg (1964) stress that unit teaching is but one of many ways of teaching. They maintain that it is not an easy way to teach, but that it is rewarding in terms of feedback from students concerning reflective thinking and valuable information gained. The Encyclopedia of Educational Research (1982) states that: "Unit teaching has proved useful for elementary and secondary level instruction in areas in which concept development is important, particularly English, social studies and science." (p. 1694)

Although there is not a large body of empirical research that would support unit teaching as a method likely to produce more favorable results than other types of teaching, unit teaching has become widely accepted. In recent years unit teaching has been expanded to include the planning of teaching into thematic units that encompass more than one discipline that incorporates a significant portion of the school day. According to Arends (2000) "most schools and teachers organize instruction around weeks and units." (p. 63)

He maintains that most beginning teachers rely on textbooks and curriculum guides, but that experienced teachers develop unit plans and supporting materials that can be reused. McNeil (1995) extols instructional unit plans because they are "responsive to a local situation, individual students, and the teacher's own passion." (p. 172) He adds that daily plans usually are embedded within the unit plan and are dependent upon the progress of the class in the unit. Taba (1964) views the task of organizing the purposes, content, learning activities and assessment into a coherent unit as a complex task that is usually left to classroom teachers. She adds, however, that it is in the development of such a plan that the many problems of curriculum making can be worked out realistically.

**Materials and Methods**

One hundred undergraduate students enrolled in four elementary methods courses completed written surveys relating to the effectiveness of preparing detailed written unit plans (see Table 1). The study involved 61 pre-service student respondents from two integrated science / social studies methods classes (Spring, 1999 and Fall, 1999), and 39 pre-service students enrolled in two social studies methods classes (Winter, 2000). Later, undergraduates from the integrated science / social studies courses who had completed their student teaching, were selected to participate in a follow-up telephone survey. Data was collected by phone from sixteen respondents (see Table 2).

One hundred and nineteen experienced teachers selected primarily from nearby school districts in Oakland and Macomb counties also provided written survey data relating to their unit planning practices (see Tables 3 and 5). Sixty-four respondents were in-service teachers, representing kindergarten through fifth grades, from Bloomfield Hills Schools, an upper socioeconomic suburban district near Detroit. Other participating teachers were either enrolled in a graduate class at Oakland University, or currently were involved with supervision of student teachers from the University.

The survey questionnaires, prepared and edited by three Oakland University School of Education and Human Services professors, were designed to gather information on the usefulness of developing detailed written unit plans. Specific questionnaires were tailored to address practices in University undergraduate methods courses as well as planning activities carried out by practicing teachers and student teacher supervisors (see questionnaire items in Tables 1-3).

**Results**

(Pre-service Teachers)

In general, Oakland University undergraduate students reported that unit planning in their methods course(s) helped them prepare and use significant subject matter content; in addition, the process provided an opportunity for them to become familiar with and utilize subject matter objectives such as those suggested by the Michigan Department of

Education. Based on a five-point "usefulness scale" relating to identification and use of objectives, a mean rank of 4.04 with a standard deviation of 0.75 was obtained (see Table 1). On a similar five-point scale, relating to preparation and use of subject matter content, a mean rank of 3.78 with a standard deviation of .91 was derived (see Table 1). In their written responses, several students noted that although it was difficult to design or locate activities that targeted selected objectives, unit planning helped them focus on significant concepts to be taught. Also, several students indicated that it would be even more helpful if they had the opportunity to actually put their units to use in a real classroom.

Regarding the usefulness of unit planning for the development and practice of effective teaching strategies, undergraduate responses appeared mixed. A mean rank of 3.35 and standard deviation of 1.11 was calculated based the five-point usefulness scale (see Table 1). Written student comments suggested that effective teaching strategies are not necessarily learned through the process of developing a detailed unit plan. Some respondents indicated that it might be more useful to address the topic of effective teaching strategies during class discussions.

The majority of respondents perceived that developing a detailed unit plan was somewhat helpful in learning how to design and use assessment. Using the five-point usefulness scale, the mean rank was found to be 3.58 with a standard deviation of 1.00. Some students revealed that designing assessment was a difficult part of unit planning process because they were accustomed to relating student assessment to *activities* rather than to the targeted objectives. Several students stated that unit planning makes one think critically about what to assess in relation to the selected unit benchmarks.

Based on a later follow-up telephone survey of 16 pre-service teachers who had completed their student teaching, 69 percent of the respondents offered positive comments about the usefulness of unit planning. While these students, in general, found the actual teaching unit they developed in their earlier methods class to be useful in their student teaching, they found the *process* they used in developing the unit to be of greater value (see Table 2). Regarding usefulness of their actual teaching unit, a mean of 3.13 with a standard deviation of 1.36 was calculated based on a five-point rating scale. Usefulness of the *process* used in developing the unit revealed a higher mean of 4.38 with a standard deviation of only 0.72. A calculated Student's t-Test value of 0.003 suggests a highly significant difference in these means at a probability level $\leq 0.01$.

In summary, the majority of students believed that producing detailed written units in their methods classes was somewhat useful. Some respondents, however, believed it to be unrealistic and a "waste of time" to require detailed written plans as part of university methods class requirements.

(Experienced Teacher Perspectives)

About 80 percent of the 119 experienced teachers surveyed reported that they developed a teaching unit as part of their pre-service educational methods course(s). While teachers found the actual teaching unit they developed to be somewhat useful, they found the process they used in developing the unit to be of greater value (see Table 3). Regarding usefulness of their actual teaching unit, a mean of 2.94 with a standard deviation of 1.15 was derived. However, usefulness of the *process* was shown to have a higher mean of 3.68 with a standard deviation of 1.07. These mean differences are similar to those from the follow-up telephone survey of pre-service teachers who had completed

student teaching. A Student's t-Test value of 0.00001 indicates a highly significant difference in these means at a probability level $\leq 0.001$.

Based on written comments regarding the usefulness of unit planning in their methods courses, several teachers indicated that the units they developed were useful only if, by chance, they applied to the grade level or curriculum they actually taught. Most, however, stated that the process of learning how to develop a unit was more useful than the actual product (unit).

As part of the survey, teachers were asked to compare their own written instructional plans to the criteria reflected in a given University methods course unit-planning checklist (see Table 4). Based on a five-point similarity scale, a mean rank of 3.15 with a standard deviation of 1.17 was calculated (see Table 3). While these rankings suggest some similarity, written comments from several teachers revealed that they simply do not have enough time to develop detailed written unit plans. Some stated that, instead of recording all details, they prepare a mental outline. Nonetheless, some believed it is worthwhile for pre-service teachers to go through the process of developing a detailed written unit.

Regarding the selection and organization of subject matter to be taught, most of the experienced teachers reported that they utilized one or more of the following: 1) district / building curriculum; 2) publisher-designed curriculum; or 3) personal / professional decision. About half of the teachers (50.8 percent) indicated that they included their district / building curricular plan (see Table 5).

Experienced teachers surveyed used a variety of strategies to organize subject matter content to be taught. Respondents selected one or more of the following organizational plans: 1) development of subject matter units, 2) development of integrated themes, or 3) use of a publisher-designed curricular plan. Integrated theme design appeared to be the most frequently utilized plan with a selection frequency of 44.9 (see Table 5).

**Conclusions and Implications**

This study suggests that undergraduate pre-service teachers believe that preparing detailed written unit plans is at least somewhat useful as part of their teacher preparation program. Students appear to value unit planning as an effective means of a) learning how to identify and use objectives, b) learning how to prepare and use content to be taught, c) developing and using teaching strategies, and d) learning how to design and use assessment.

Detailed written units that students developed in methods classes were useful in later student teaching only if, by chance, they related to the curriculum specified by the cooperating teacher. Nonetheless, student teachers found useful the *process* they used in developing their earlier teaching unit. Data from experienced teachers also suggests that the process used in developing a detailed unit plan may be more valuable than the actual written product.

Data from experienced teachers indicates that *time* may be a limiting factor in the development of detailed written plans. To conserve time, the busy practicing teacher apparently makes a long-range general plan, then prepares a mental outline of the content details.

Experienced teachers sampled utilize a combination of strategies to select and organize content to be taught. While the majority appears to include the curriculum prescribed by their district or building, a significant number of the elementary teachers organize content in the form of integrated themes. Additional study is needed to determine whether the content planning strategies described by teachers sampled is representative of a larger population practicing elementary teachers.

While this study suggests that unit plan design is a useful component of teacher education programs, university course planners should continue to explore ways to better align pre-service teacher experiences with the realities faced by local practicing teachers. Regarding curricular planning experiences by pre-service teachers, some questions to be considered may be:

1. How should subject matter content be organized? (e.g. Should it be designed as discrete subject matter units, as integrated themes, or as some combination thereof?)
2. How do effective practicing teachers conserve time by abbreviating the written curricular planning process?
3. How can pre-service teachers make better use of the written unit plans they prepare as part of their university course work?

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Table 1. Effectiveness of Unit Teaching: Undergraduate Survey Results

| Rank | Survey Item |
|---|---|
| No Use.....Very Useful<br>1 2 3 **4** 5<br>↑<br>N = 107<br>Mean = 4.04<br>Std. Dev. = 0.75 | Preparation of a teaching unit in an educational methods course is:<br>1. an effective means of learning how to identify and use objectives.<br>Selected Comments:<br>• Unit context helps to clarify whether or not an activity fits the objectives<br>• It would be useful to design a unit that would relate to our future student teaching<br>• I think the yearlong plan probably is more useful<br>• Having time to develop a unit without the stress of teaching at the same time helps develop skills to concentrate on objectives<br>• It will be useful if I'm on a future curriculum planning committee<br>• It was difficult to find activities that address selected benchmarks, but it really helped me focus on meeting objectives<br>• Units make you focus on standards |
| No Use.....Very Useful<br>1 2 3 **4** 5<br>↑<br>N = 114<br>Mean = 3.78<br>Std. Dev. = 0.91 | Preparation of a teaching unit in an educational methods course is:<br>2. an effective means of learning how to prepare and use content.<br>Selected Comments:<br>• It would be more helpful if we could actually put the unit to use<br>• It's significant because the content ties to the targeted objectives, and the objectives drive the unit |
| No Use.....Very Useful<br>1 2 **3** 4 5<br>↑<br>N = 108<br>Mean = 3.36<br>Std. Dev. = 1.11 | Preparation of a teaching unit in an educational methods course is:<br>3. an effective means of developing and using teaching strategies.<br>Selected Comments:<br>• These can be developed in the activities and don't necessarily need unit structure<br>• It might be more useful if we cover actual teaching strategies during class meetings<br>• Unit preparation does not really help one learn good teaching strategies<br>• Field testing some of the lessons was extremely helpful for trying out strategies |
| No Use.....Very Useful<br>1 2 3 **4** 5<br>↑<br>N = 110<br>Mean = 3.58<br>Std. Dev. = 1.00 | Preparation of a teaching unit in an educational methods course is:<br>4. an effective means of learning how to design and use assessment.<br>Selected Comments:<br>• This is the toughest part; at first, I tied assessments to the activities and not necessarily to the unit objectives<br>• I now understand that one can't develop a unit without a way to assess it<br>• Unit planning makes you critically think about what you are assessing in relation to the selected benchmarks<br>• While producing units is beneficial, it is unrealistic to think that we will be writing elaborate lessons, bibliographies, etc. such as those found in units we turn in to a professor. Much of that extra stuff is a waste of time<br>• Overall, I thought that designing a unit was good practice and a useful experience |

Table 2. Effectiveness of Unit Teaching: Student Teacher Telephone Follow-up Survey

| Rank | Survey Item |
|---|---|
| No Use.....Very Useful<br>1 2 **3** 4 5<br>↑<br><br>N = 16<br>Mean = 3.13<br>Std. Dev. = 1.36 | To what extent did you find the actual teaching unit that you developed in your methods class to be useful?<br>Selected Comments:<br>• The units developed were not applicable to a real class<br>• I plan to use the unit in my own future class<br>• Did not use my unit because in my student teaching the curriculum was different<br>• My cooperating teacher required me to teach units from the book<br>• I was required to follow the existing lessons organized by the district<br>• My unit was not compatible with the school's prescribed curriculum |
| No Use.....Very Useful<br>1 2 3 **4** 5<br>↑<br><br>N = 16<br>Mean = 4.38<br>Std. Dev. = 0.72 | To what extent did you find the process used in developing a teaching unit in your methods class to be useful?<br><br>Selected Comments:<br>• Designing units around benchmarks was a valuable experience<br>• Units we prepared in methods courses were too much in depth<br>• It's important to know how to develop a unit<br>• Developing a unit gave me good practice in organizing |

Table 3. Effectiveness of Unit Teaching: Practicing Teacher Perspectives

| Rank | Survey Item |
|---|---|
| Yes = 95<br>No = 24 | 1. Did you develop a teaching unit as part of your pre-service educational methods course(s)? |
| No Use.....Very Useful<br>1 2 **3** 4 5<br>↑<br>N = 90<br>Mean = 2.94<br>Std. Dev. = 1.15 | 2. To what extent did you find useful the actual teaching unit you prepared during your pre-service educational methods course(s)?<br>Selected Comments:<br>• Only useful if it applies to the curriculum one actually teaches<br>• That was 30 years ago! Today's thinking and student needs are different—especially in areas of technology<br>• It had little or no application to what happens in today's classroom<br>• I had to develop 10 science kits for the grade I planned to teach<br>• Useful, primarily as a means of understanding how to develop a unit<br>• The curriculum was already set and my unit did not fit<br>• Did not use it because I became employed to teach at another grade level<br>• I had no unit preparation instruction, just the science theory of lessons |
| No Use.....Very Useful<br>1 2 3 **4** 5<br>↑<br>N = 86<br>Mean = 3.68<br>Std. Dev. = 1.07 | 3. To what extent did you find useful the process you used in developing a teaching unit in your pre-service educational methods course?<br>Selected Comments:<br>• It gave me some ideas on how to plan units<br>• That was not taught in my methods classes "way back when"<br>• When actually teaching, you don't have the time for detailed unit preparation and research<br>• I don't really develop units the way I was taught in methods courses<br>• I developed a more useful method of preparing lessons when I actually taught; I learned to use reflection and evaluation to design authentic lessons |
| No Similarity ... Very Similar<br>1 2 **3** 4 5<br>↑<br>N = 61<br>Mean = 3.15<br>Std. Dev. = 1.17 | 4. As a practicing teacher, to what extent are your written instructional plans similar to the components reflected in the given University methods course unit-planning checklist?<br>Selected Comments:<br>• As a practicing teacher, there simply is not enough time to develop units as taught in the university methods courses<br>• There is no time to complete unit plans in such detail<br>• Time! I would spend all of my time writing at the expense of daily assessment<br>• I prepare a mental outline; details are not always written down, but they are in my head<br>• There is no time for this type of written detail, but it is worthwhile for students to learn |

Table 4. Selected Criteria for Evaluating a Unit Plan

**Discipline-based Outcomes** (Benchmarks):

____Specific benchmarks are related directly to the unit content---and appropriately assessed.

____ Central Question(s): Unit plan includes one or more central questions related to the unit subject matter.

**Subject Matter Organization / Analysis:**

____ Concept Map or Outline: Subject matter is organized in the form of a concept map or a coherent content outline.

**Learning Activities (Lessons):**

____Lessons are presented in a coherent sequence.

____Each lesson describes concisely the *procedures*, including:

_____a) what both teacher and student will be doing during the activity; and

_____b) pre-assessment strategies that may be used to uncover learner misconceptions and/or naive ideas about the concept(s) involved.

**Assessment:**

____The unit includes one or more authentic *assessment option(s)*. Each assessment item / task / performance:

____a) specifically relate(s) to one or more targeted benchmark(s);

____b) contains specific evaluative criteria such as a scoring rubric or checklist;

____c) may be an identified integral part of the learning activity (optional); and/or

____d) may include a prompt and/or directions to the student (optional).

Table 5. How Experienced Teachers Select and Organize Teaching Content

1. How do you decide what to teach? (Select one or more choices from the list below.)

| Choices | # Responses | % of Total Responses |
|---|---|---|
| A. Use my district or building curriculum plan | 101 | 50.8 |
| B. Use a publisher-designed plan | 35 | 17.6 |
| C. Use my personal, professional decision | 39 | 19.6 |
| D. Other | 24 | 12.0 |
| Total | 199 | 100.0 |

Selected Comments:

- I follow my district's prescribed benchmarks while integrating choices A, B, and C
- We use a yearlong (building) theme and integrate from there
- What to teach is based on a school theme selected by the staff and principal with parent input
- What to teach is based on teacher team input
- What I teach is dependent on the group of students and their needs
- Professional decision-making has fallen by the wayside given the amount of state and local benchmarks
- The State Benchmarks dictate what to teach

2. How do you organize subject matter to be taught? (Select one or more choices from the list below.)

| Choices | # Responses | % of Total Responses |
|---|---|---|
| A. Develop subject matter units | 71 | 39.9 |
| B. Develop integrated themes | 80 | 44.9 |
| C. Use a publisher-designed curriculum | 18 | 10.1 |
| D. Other | 9 | 5.1 |
| Total | 178 | 100.0 |

Selected Comments:

- I use a combination of A, B, and C based on the needs of students and staff
- I use the integrated thematic instruction model for the entire year
- It depends upon the amount of time I have with my students, and the breakdown of my day after "specials"
- I don't use full units (kindergarten class)
- Subject matter organization is based on teacher team input
- Subject matter is organized around a yearlong theme
- Organizing subject matter is becoming increasingly difficult as the curriculum-specific State benchmarks gain importance